

Application No.: 09/629,810

2

Docket No.: 07875/000H358-US0

**AMENDMENTS TO THE CLAIMS****Listing of Claims**

1. (canceled)

1                   2. (previously amended) The timing device according to claim 10,  
2    wherein the at least one sensor unit for scanning the first group and the at least one  
3    higher-order group of code markings consists of a single sensor-emitter-unit.

3 and 4 (canceled)

1                   5. (currently amended) The timing device according to claim 10, wherein in  
2    the sensor unit a two-channel evaluation of the optical signals is performed.

6. (canceled)

1                   7. (currently amended) The timing device according to claim 10, wherein  
2    the at least one code track and the groups of code markings have predefined  
3    differences between their three different optical density levels differ from each other  
4    by predefined amounts of optical density.

1                   8. (previously amended) The timing device according to claim 7, wherein

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Application No.: 09/629,810

3

Docket No.: 07875/000H358-US0

2 the at least three different optical density levels correspond to at least three different  
3 gray levels which can span a range between light-blocking and almost complete  
4 transparency.

1 9. (currently amended) The timing device according to claim 8, wherein  
2 the carrier of the timing device is made of a reflecting material and the at least three  
3 different optical density levels are constituted by groups of code markings have  
4 different degrees of reflectivity relative to the carrier and relative to each other.

1 10. (currently amended) A timing device comprising a carrier having a  
2 first group of code markings and at least one higher-order group of code markings  
3 disposed in at least one code track, said first and at least one higher-order group of  
4 code markings being scanned by at least one sensor unit to produce signals, said at  
5 least one sensor unit comprising a light source and a photo-transistor, wherein the  
6 code markings of the at least one higher-order group overlap with are superimposed  
7 on the code markings of the first group in the at least one code track, wherein the at  
8 least one code track has a basic optical density level, wherein the code markings of  
9 the first group are bars of equal width and equally spaced from one another, whereas  
10 the code markings of the at least one higher-order group are distributed over the code  
11 track with an arbitrary spacing and form segments on the timing device are formed by  
12 step changes from a first optical density level to at least a second optical density level  
13 of said bars, said step changes serving for controlling different functions, wherein the

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Application No.: 09/629,810

4

Docket No.: 07875/00PH358-US0

14 basic, the first, and the at least second optical density levels are different the at least  
15 ~~one code track, the first group of code markings and the at least one higher order~~  
16 ~~group of code markings have different optical density levels in comparison to each~~  
17 ~~other, so that there are at least three different optical density levels with a detectable~~  
18 ~~gradation of optical density, and wherein the detectable gradation is used for~~  
19 ~~generating control or position signals.~~

1 11. (previously amended) The timing device of claim 10, wherein said  
2 different functions include at least one of the functions of controlling a start position,  
3 controlling an end position, calibrating the timing device, and determining an absolute  
4 position of the timing device.

12. (currently amended) A positioning device, comprising a timing device with a carrier having a first group of code markings and at least one higher-order group of code markings disposed in at least one code track, with the first and at least one higher-order group of code markings being scanned by at least one sensor unit for producing a sensor signal, said at least one sensor unit comprising a light source and a photo-transistor, wherein the code markings of the at least one higher-order group ~~overlap with~~ are superimposed on the code markings of the first group in the at least one code track, wherein the at least one code track has a basic optical density level, wherein the code markings of the first group are bars of equal width and spaced at constant intervals from one another, whereas the code markings of the at least one

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Application No.: 09/629,810

5

Docket No.: 07875/000H358-US0

11 higher-order group are distributed over the code track with an arbitrary spacing and  
12 ~~form segments on the timing device are formed by step changes from a first optical~~  
13 ~~density level to at least a second optical density level of said bars, said step changes~~  
14 ~~serving~~ for controlling different functions, and wherein the code markings of the at  
15 least one higher-order group are used for at least one of the purposes of controlling a  
16 start position, controlling an end position, calibrating the timing device, and  
17 determining an absolute position of the timing device; said positioning device further  
18 comprising a signal processing device that converts the sensor signal into a control  
19 signal and is connected after the sensor unit, wherein ~~the basic, the first, and the at~~  
20 ~~least second optical density levels are different the at least one code track, the first~~  
21 ~~group of code markings and the at least one higher-order group of code markings~~  
22 ~~have different optical density levels~~ in comparison to each other, so that there are at  
23 least three different optical density levels with a detectable gradation of optical  
24 density, and wherein the detectable gradation is used for generating control or  
25 position signals.

1 13. (previously amended) The timing device according to claim 10,  
2 wherein the light source is an LED.

14. (canceled)

1 15. (currently amended) The timing device according to claim 10,

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Application No.: 09/629,810

6

Docket No.: 07875/000H358-US0

- 2 wherein in the sensor unit a multi-channel evaluation of the optical signals is
- 3 performed.

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